

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-5. (Canceled)

6. (Currently Amended) A manufacturing method of a photo mask blank having at least a thin film for forming a pattern on a transparent substrate, said method comprising the steps of:

setting a substrate in a horizontal position where a surface of the substrate on which said thin film is formed and a surface of a sputtering target are in opposed position with a center axis of said target deviating from a center axis of said substrate surface, and

sputtering the target while rotating said substrate around its center axis so as to form said thin film,

wherein the forming of the thin film is controlled so as to make the rotation number during the film formation an integer.

7. (Original) The manufacturing method according to claim 6 wherein the target and the substrate are disposed so that opposite surfaces of said substrate and the target form a predetermined angle therebetween.

8. (Canceled).

9. (Previously presented) The manufacturing method according to claim 7 wherein said thin film for forming the pattern is a phase shift film, and said photo mask blank is a phase shift mask blank.

10-11. (Canceled)

12. (Currently Amended) The manufacturing method according to claim ~~[[6]]~~ 27 wherein said thin film for forming the pattern is a phase shift film, and said photo mask blank is a phase shift mask blank.

13. (Previously presented) The manufacturing method according to claim 12 wherein a dispersion of a phase angle of said phase shift film in a plane is within $\pm 2^\circ$.

14. (Currently Amended) The manufacturing method according to claim ~~[[6]]~~ 27 wherein said thin film for forming the pattern is a light semi-transmission phase shift film, and said photo mask blank is a halftone phase shift mask blank.

15. (Currently Amended) The manufacturing method according to claim 14 wherein a dispersion of a phase angle of said light semi-transmission phase shift film in a plane is within $\pm 2^\circ$ and a dispersion of a transmittance in the plane is within $\pm 4\%$ of an average value.

16. (Original) The manufacturing method according to claim 14 wherein said light semi-

transmission phase shift film is formed by sputtering the target formed of a metal and silicon in an atmosphere containing nitrogen, contains the metal, silicon and nitrogen as main constituting components, and is formed so that a content of nitrogen in said light semi-transmission phase shift film is larger than a content of silicon.

17-25. (Canceled).

26. (New) A manufacturing method of a photo mask blank of Claim 6 wherein the controlling is carried out in a manner that a position of the substrate at the starting of film forming is detected by an sensor, and, when the same position is detected by the sensor after an integer times of rotation of the substrate, the film forming is stopped.

27. (New) The manufacturing method according to claim 7 wherein the predetermined angle is 10 to 30 degree.

28. (New) A manufacturing method of a photo mask blank having at least a thin film for forming a pattern on a transparent substrate, said method comprising the steps of:

setting a substrate in a horizontal position where a surface of the substrate on which said thin film is formed and a surface of a sputtering target are in opposed position with a center axis of said target deviating from a center axis of said substrate surface, and

sputtering the target while rotating said substrate around its center axis so as to form said thin

film,

wherein the target and the substrate are disposed so that opposite surfaces of said substrate and the target form an angle between 10 to 15 degree.

29. (New) The manufacturing method according to claim 28 wherein said thin film for forming the pattern is a phase shift film, and said photo mask blank is a phase shift mask blank.

30. (New) The manufacturing method according to claim 29 wherein a dispersion of a phase angle of said phase shift film in a plane is within $\pm 2^\circ$.

31. (New) The manufacturing method according to claim 29 wherein said thin film for forming the pattern is a light semi-transmission phase shift film, and said photo mask blank is a halftone phase shift mask blank.

32. (New) The manufacturing method according to claim 31 wherein a dispersion of a phase angle of said light semi-transmission phase shift film in a plane is within $\pm 2^\circ$ and a dispersion of a transmittance in the plane is within $\pm 4\%$ of an average value.

33. (New) A manufacturing method of a photo mask blank having at least a thin film for forming a pattern on a transparent substrate, said method comprising the steps of:

setting a substrate in a horizontal position where a surface of the substrate on which said thin film is formed and a surface of a sputtering target are in opposed position with a center axis of said

target deviating from a center axis of said substrate surface, and

sputtering the target while rotating said substrate around its center axis so as to form said thin film,

wherein, when said substrate has a size of one side 152 mm of square, an offset distance is 200 to 350 mm, and T/S value is 200 to 380 mm,

said offset distance being a distance between a center axis of the substrate and a straight line passing through a center of the target and extended in parallel to the center axis of the substrate, and T/S value being a vertical distance between the target and the substrate.

34. (New) The manufacturing method of Claim 33 wherein, when substrate has a size of one side 152 mm of square, said offset distance is 240 to 280 mm, and T/S value is 210 to 300 mm.

35. (New) A method for pattern transferring comprising:

preparing a photo mask blank having at least a thin film for forming a pattern on a transparent substrate,

preparing a photo mask by forming the pattern on the thin film, and

exposing a light to the photo mask,

wherein the photo mask blank is prepared by a method comprising the steps of:

setting a substrate in a horizontal position where a surface of the substrate on which said thin film is formed and a surface of a sputtering target are in opposed position with a center axis of said target deviating from a center axis of said substrate surface, and

sputtering the target while rotating said substrate around its center axis so as to form

said thin film,

wherein the rotation of said substrate is controlled so as to make the rotation number during the film formation an integer by detecting a rotation angle from the start up to the end of the film formation.

36. (New) The method for pattern transferring of Claim 35 wherein the target and the substrate are disposed so that opposite surfaces of said substrate and the target form an angle of 10 to 30 degree.